In re Application of: Sean Boerner

Group Art Unit: 3628

Serial No: 09/815,360
Filed: 3/22/2001                          Examiner: Nguyen, Nga B
For: Method and System to Identify Discrete Trends in Time Series

Commissioner of Patents and Trademarks
P.O. Box 1450
Arlington, VA  22313-1450

## RESPONSE TO OFFICE ACTION

In response to the Office Action mailed February 27, 2007 applicant respectfully submits
the following responses.

1.  Following appeal, the Examiner has reopened prosecution and  rejected all claims as
    being obvious over Rebane U.S. Patent No. 6,078,904 in view of Wallman, U.S.
    Patent No. 6,161,098.  Applicant respectfully traverses the rejection.

2.  The current invention relates to trend analysis.  Rebane does not describe or use trend
    analysis.  Wallman does not describe or use trend analysis. Even if they were
    reasonably combined, the combination of Rebane and Wallman does not describe or
    use trend analysis.  (The references are not reasonably combined.)

    Current invention
    The current invention relates to trend analysis.  The method of the current invention is
    applied to a single series of numbers that have been constantly sampled in time or
    space to determine when trends end.  The method is not limited to a time series of
    stock market data.  For example, the method can be applied to finding geologic
    sequences from well logs, because those sequences have sharp geologic boundaries.
    The sequences can be approximated with trend lines that have a start and end.

Rebane

Rebane describes a system for allocating money to various investments based on their historical performance over a past period of time, the investor's tolerance for risk, and the investor's net worth. The goal is to come up with the fractional amounts of money that will be put into each of the investments if any. Rebane does not use trends in his analysis, nor does he use any type of trend analysis. The historical performance is accounted for by the use of a few statistical measures, but there is nothing in Rebane that suggests calculating trends or using them in his method.

Wallman

Wallman's patent (U.S. Patent 6,161,098) is for "Method and Apparatus for Enabling Small Investors with a Portfolio of Securities to Manage Taxable Events within the Portfolio". This patent describes an algorithm for identifying and minimizing the effect of taxes when an investor chooses to sell one or more securities from a portfolio of securities that he or she owns. The description expects that the algorithm is implemented in a software system whereby the investor is allowed to choose from a multitude of options to maximize cash and minimize taxes. The Wallman patent does not relate to trends on time series as described in the current invention.

The Examiner characterizes Wallman as relating to time series:

"However, Wallman discloses inputting time series data, the time series comprising a plurality of data elements, at least a portion of which represents a trend which is generally increasing or decreasing (figures 4-6 and column 13, line 35-column 14, line 62, inputting financial factors scenario)."

This characterization is incorrect.

The cited portion of Wallman describes how the user can select a scenario whereby the software would sell assets or liabilities within the scenario. In Figure 4, the software would present a 3D graph to the user that has on the horizontal axis the money to be received from the sale of the securities for each scenario, on the vertical axis, the long-term capital gain or loss, and on the third axis represents the long-term

gain or loss represented by the sale of the securities in the portfolio. This method and graph has no relevance to trends or calculating trend determination parameters.

In Figure 5 of Wallman, the software would present a 3D graph to the user that has on the horizontal axis the gain to be received from the sale of the securities for each scenario, on the vertical axis, the short and long-term capital gain or loss, and the third axis represents the effects of the sale of the selected securities issues in the portfolio. This method and graph has no relevance to trends or calculating trend determination parameters.

At Column 13, Line 35 Wallman describes how a "…user input device could include a voice activated user input, any of which are currently available". Here Wallman is describing how the user can interact with the software. This method and graph has no relevance to inputting a time series or calculating trends on the time series.

Column 14, Line 62 is the tail end of an example describing the short and long term tax consequences of selling the securities in the portfolio for various prices of the security. This has nothing to do with trends or calculating trend determination parameters.

Therefore, Wallman does not "…discloses inputting time series data, the time series comprising a plurality of data elements, at least a portion of which represents a **trend** which is generally increasing or decreasing"

The current invention does not relate to the decision on what combination of securities should be sold to enhance the tax consequences. The current invention relates to calculating trends on times series. While those time series might be security prices, they could as well be the electrical readings from a geophysical tool in the borehole of a well drilled for petroleum exploration.